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OXC-0792

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9 August 1960

MEMORANDUM FOR : The Record
SUBJECT : Weight Status - JT11D-20A Engine
REFERENCE : Memorandum OXC-0617-60, dtd 8 July 1960, subject as above

1. This report is intended to present subject weight status as of 25 July 1960 and is based upon the writer's visit to Pratt & Whitney Florida facilities on 1 through 4 August 1960.
2. Attachment 1 presents a revised breakdown of the current weight estimate for the first preliminary XJT11D-20A ground test engine which was initially presented as attachment 1 of reference (a) memorandum. Changes since the initial release are underlined in red on the attachment.
 - (a) The YJT11D-20A engine dry weight per specification 3967B is 5657 lbs.
 - (b) The first preliminary XJT11D-20A ground test engine dry weight is currently estimated at 6112 lbs.
 - (c) Summary of Attachment 1:

	<u>Weight (lbs.)</u>	<u>Cumulative Changes Relative to "Y" Eng. Spec. Wt. of 5657 lbs.</u>
Current Prel. "X" Eng. Est.	6112	+455.0
Category 1 changes	-366.6	+ 88.4
Category 2 changes	- 73.0	+ 15.4
Category 3 changes	0.0	+ 15.4
Category 4 changes	-165.9	-150.5

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(d) The definitions of category 1 through 4 changes remain as presented in ref. (a) memorandum with the added stipulation that category 4 is now tantamount to non-incorporation.

3. With reference to the four proposals involving [redacted] compromise (ref. (a) memo para 3; *Attachment 1), and which now represent a weight reduction of 144.6 lbs., P & W recommends incorporation now with a continuing effort through test and development to reduce corrosion to within acceptable limits [redacted]

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4. The adjustments to the current est. wt. column of attachment 1 which are reflected in the new total of 6112 lbs. are in part due to initial prototype design release. Presently the total estimated engine weight comprises 85 per cent estimate and 15 per cent firm design release. As design release continues and estimates become firm adjustments to each major area will continue. This initial design release does not yet reflect incorporation of any of the category 1 through 4 weight reduction changes with the exception of item 3 (h) worth -.2 lbs.

Item 28 "Revision in waspaloy density" has been deleted and is now reflected as a part of the adjustments described above.

5. Item 3 (j) now reflects +7.4 lbs. instead of -3.6 lbs. as reported previously because of the addition of a rim spacer which has become necessary in order to dampen a third stage vibration.

6. Still under consideration is the proposal for the turbine disc cooling air baffling described in para 6 reference (a) memorandum.

7. Current estimate places the remote gearbox weight at 95 lbs. reflecting a 15 lb. increase over that reported in para 7 reference (a) memorandum.

8. A new weight reduction proposal is now considered involving the nozzle primary flap structure ("bird cage"). This proposal which may be worth -10 to -15 lbs. constitutes a simple removal of existing material and therefore should not reflect a hardware cost increase.

SIGNED

[redacted]
Development Branch
DPD-DD/P

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Attachment:

Considered Design Changes - Weight Reduction (Rev. A)

DEV BR/DPD, [redacted] (9 August 1960)

Distribution: Cy 1 & 2 - DB/DPD w/att

3 & 4 - DC/DB/DPD w/att

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